Remarks

I. The Specification is Objected to Under 35 U.S.C. § 132

The Examiner has alleges that the amendment entered on June 18, 2001 to update the continuity data set forth in the specification allegedly introduced new matter. The Examiner specifically alleges the incorporation by reference statements included in the amendment to the continuity data constitute the introduction of new matter.

Applicants respectfully submit that the Examiner is mistaken. The disclosure as originally filed recited the incorporation by reference of US patent application 08/938,669 and 08/791,154 at page 1 lines 8-12 in the section entitled "CROSS REFERENCE TO RELATED APPLICATIONS." The amendment of June 18, 2001 updated the cross-reference to indicate that the '669 application had been allowed and that the '154 application had been abandoned. As the incorporation by reference statements were present in the original disclosure as filed, they cannot constitute new matter. For the foregoing reasons Applicants respectfully request the objection to the specification under § 132 to be withdrawn.

II. Election/Restriction

The Examiner has withdrawn from consideration subject matter drawn to a complement of SEQ ID. NO.: 34. The withdrawal of this subject matter is based upon the allegations that "fragments of the sense strand of SEQ ID NO.: 34 [are] considered to be unrelated to the invention reciting fragments of the complementary strand." The Examiner further alleges that fragments of SEQ ID NO.: 34 and the complementary strand are considered different "because the complementary material has a different structure (i.e. sequence), which are not disclosed as useful together."

Applicants respectfully traverse the Examiner's withdrawal of complementary strands as they are contemplated and disclosed as being useful together with SEQINO.:34 and its complements. The Examiner's assertion that "the complementary material has a different structure (*i.e*,. sequence), which are not disclosed as useful together" is in conflict with the nature of the instant nucleic acids. First, the specification repeatedly indicates that complements to SEQ ID NO.: 34 are contemplated. For example, at page 11, starting at line 27, the specification teaches "TIGR nucleic acid molecules or fragments thereof are capable of specifically hybridizing to other nucleic acid molecules" to form double stranded nucleic acid molecules, including completely complementary double stranded nucleic acid molecules. Second, the use of SEQ ID NO.: 34 with its complementary sequences is supported throughout the disclosure. For example, at page 26, beginning at line 1, the specification teaches "[t]he TIGR promoter, or any portion thereof, or an about 10 to about 500 bases fragment thereof, of the present invention may be used in a gel-retardation or band shift assay." A skilled artisan would recognize that a promoter sequence is double stranded and can be used as such in gel-retardation assay. Moreover, the disclosure at page 41 teaches the use of PCR and LCR, techniques that employ primers representing both strands of a nucleic acid, to detect polymorphisms in the TIGR promoter, and which would produce a fragment of SEQ ID NO.:34 and its complement. The use of PCR is exemplified in Example 3. These represent only a few of the uses of nucleic acids complementary to SEQ ID NO.:34 with a nucleic acid having the sequence of SEQ ID NO.: 34 or a fragment thereof. In view of the foregoing, Applicants respectfully submit that the disclosure contemplates nucleic acids complementary to SEQ ID NO.: 34 and their use with nucleic acid having the sequence of SEQ ID NO.: 34 or a fragment thereof.

Under MPEP 806.04 the restriction between the SEQ ID NO.:34 and it complement is improper. As the Examiner notes at page 3 of the November 19th Office Action, "[i]nventions are unrelated if it can be shown that they are not disclosed as useful together and they have different modes of operation . . . ." As complements of SEQ ID NO.: 34 and its fragments have been disclosed as being capable of use together, restriction is improper and should be withdrawn. Moreover, the Examiner's allegations that the complementary strands have "different functions from regulatory fragments of the sense strand," they typically serve as probes or primers or antisense inhibitors, and that they have different modes of operation, is irrelevant where the nucleic acids have been disclosed as useful together.

With regard to the Examiner allegation that a different search is required for the two strands, Applicants respectfully submit that nucleic acid searching programs employed at the USPTO are capable of searching both a given sequence and its complement.

III. The Rejection of Claims 144, 146-155, 157-166, and 168-174 Under 35 U.S.C. § 112 First Paragraph

Claims 144, 146-155, 157-166, and 168-174 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter that was not described in the specification in a manner that reasonably conveys to one of ordinary skill in the art that the inventors had possession of the claimed invention at the time of filing. The Examiners allegation appears to be based upon the assertion that Applicants' written description encompasses a limited number of species restricted to functional regulatory regions and that Applicants' amendment to delete the functional language "improperly broadens the scope of the claims."

Applicants disagree, the Examiner fails to fully consider the teachings of the disclosure and misapplies the standard for compliance with the written description requirement. Compliance with written description is essentially a fact-based inquiry. *See Enzo Biochem, Inc., v. Gen-Probe Inc.*, 296 F.3d 1316, 1324 (Fed. Cir. 2002) (citing *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991) and *In re DiLeon*, 436 F.2d 1404,1405 (C.C.PA. 1971)). Disclosure of "such descriptive means as words, structures, figures, diagrams formulas, etc., that fully set forth the claimed invention" satisfies the written description requirement. *See, Enzo Biochem*, 296 F.3d at 1329 (quoting from *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997). Adequate written description of genetic material "requires a precise definition, such as by structure, formula, chemical name, or physical properties." *Regents of the University of California v. Eli Lilly & Co.,* 119 F.3d 1559, 1566 (Fed. Cir. 1997), *Fiers v. Revel,* 984 F.2d 1164, 1171 (Fed.Cir. 1993)).

The Examiner's allegations that Applicants "have disclosed only those fragments that have regulatory function" and that "no other types of fragments have been described" is mistaken and fails to consider the teachings of the specification. The specification teaches a variety of fragments of SEQ ID NOS: 3 or 34 that support written description of more than those sequences "having regulatory function." Examples of SEQ ID NOS: 3 or 34 fragments include those useful for single stranded conformational analysis (*e.g.,* SEQ ID NO.: 6-16 set forth in Figure 4 and on page 10 at lines 14-23), fragments of the TIGR promoter from 10-500 bp that may be used in gel-retardation assays (page 25, lines 29-32), and SEQ ID NO.: 35. In addition, the specification teaches nucleotide fragments of SEQ ID NOS:3 or 34 that may be employed as PCR primers, or that are products of PCR reactions, including for example, the primers and the PCR amplification product sequence of approximately 200 bp described in

Example 3 on pages 52-53. Furthermore, the disclosure teaches that the agents of the invention include nucleic acids fragments corresponding to any part of the TIGR promoter, and that in some embodiments these may be about 20 nucleotides in length (page 25, lines 5-8).

Applicants respectfully submit that the foregoing illustrates their description of regulatory elements within the sequence of the TIGR promoter region is not a suitable basis for the Examiner's assertion that the specification teaches only "fragments that have regulatory function." Furthermore, Applicants submit that those sequences disclosed in the specification are more than sufficient for compliance with the written description requirement, as the sequences provide a precise description of the fragments in the form of their chemical structure. Moreover, the Examiner has admitted that the specification provided the sequence of SEQ ID NO.: 3 and "provided fragment sequences of SEQ ID NOS: 1-3 and 34 on page 28" in the August 13, 2003 Office Action.

In view of the foregoing, Applicants respectfully submit that they have met their burden under 35 U.S.C. § 112 first paragraph, and request withdrawal of the rejection.

IV. Rejection of Claims 144, 146-149, 151-153, 155, 157-160, and 162-164 Under 35 U.S.C. § 102(b) as Allegedly Being Anticipated by Georges *et al.* (WO 92/13102)

The Examiner alleges the Georges *et al* "teaches SEQ ID NO.: 308, which is a polymorphic DNA marker, which comprises a fragment corresponding to nucleotides 4997-5023 of the instant SEQ ID NO.: 34." The Examiner further alleges that Georges also teaches said fragment in cells and vectors thereof." Office Action dated November 19, 2005 at page 7.

Applicants respectfully disagree. Anticipation under 35 U.S.C. § 102 can only be found if a reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780 (Fed. Cir. 1985). Furthermore, anticipation requires that every limitation of the claims be

found, either expressly or inherently, in a single prior art reference, device, or practice. *Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 20 (Fed. Cir. 2000); *Gechter v. Davidson*, 116 F.3d 1454, 1458 (Fed. Cir. 1997). That is, the reference must sufficiently describe the claimed invention so as to place it into the possession of the worker of ordinary skill in the art. *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994).

Whatever else Georges reference teaches, it neither teach nor fairly suggests a substantially purified nucleic acid comprising the nucleotide sequence of SEQ ID NO: 34, or a substantially purified nucleic acid comprising the complement of the nucleotide sequence of SEQ ID NO: 34. In addition, whatever else the Georges reference teaches it neither teaches nor fairly suggest a TIGR protein coding sequence, the complement of SEQ ID NO. 34, or a fragment thereof, or the presence of SEQ ID NO.: 34 or a fragment thereof introduced into a mammalian cell.

In view of the foregoing, Applicants respectfully request the Examiner to withdrawn the rejection.

V. Non-Statutory Double Patenting

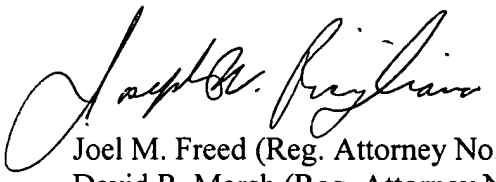
Claims 144, 146-155, 157-166 and 166-174 are rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 27, 29, 43, and 45 of US patent 6,171,788.

The Examiner's attention is respectfully directed to the terminal disclaimer filed June 4, 2002, with respect to US Patent 6,171,788. Applicants respectfully submit that the previously submitted terminal disclaimer renders the instant rejection moot, and respectfully request its withdrawal.

Conclusion

Applicants submit that the claims are in condition for allowance and solicit a notice of allowability at the earliest possible time. Should the Examiner have any questions regarding this application, the Examiner is encouraged to contact Applicants' undersigned representative at 202-942-5174.

Respectfully Submitted,



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